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Why is wet sand firmer beneath your feet than wet gravel?





CONCEPTUAL Physics

NEXT-TIME QUESTION

Why is wet sand firmer beneath your feet than wet gravel?



Answer:

CONCEPTUAL Physics

There is considerably more surface area per kilogram of sand than per kilogram of gravel. You can see this by comparing the amount of paint it would take to paint a 1-kilogram rock with the larger amount of paint it would take to cover its pieces if it were broken into gravel; then with the still greater amount of paint that would be soaked up if the gravel were ground into sand. The greater surface area when wetted with water produces more surface tension that pulls the grains together to form firm sand.

